In the Claims:

Please cancel both of the claims in this case and replace them with the following new claims 3-22.

1-2. Canceled

Please add the following new claims.

3. (New) A conductive material, comprising:

a molecular medium having a charge transfer complex including at least one positively charged molecular group and at least one negatively charged molecular group;

a dopant;

wherein said positive and negative charges are separated from each other by a distance from about 0.2 nm to about 20 nm;

wherein the viscosity of said molecular medium is at least about 10^7 Pa.s;

wherein the concentration of said charge transfer complexes is at least about 1.6×10^{19} cm^{-3}; and wherein at least two crystallized electron pairs occupy a region between said positive and negative charges, each of said crystallized electron pairs has charge $-2e$ and spin 1; each of said crystallized electron pairs situated in nodes of a two-coxial, quasi-one-dimensional sub crystal.

4. (New) The conductive material of claim 1, wherein said dopant is selected from the group consisting of Na, K, Cs_2O, BaO, $(C_5H_5)_2Cr$ and $(CH_3)_3CH$.

5. (New) The conductive material of claim 1, wherein said positively charged molecular group comprises a tertiary amine and said negatively charged molecular group comprises a carboxylic acid.

6. (New) The conductive material of claim 1, wherein said molecular medium comprises at least one of an epoxy, a polyoxypropylene diamine and dimethylaminoethylmethacrylate.

7. (New) The conductive material of claim 1, wherein said molecular medium comprises at leats one side chain comprising a mesogenic group.

8. (New) The conductive material of claim 7, wherein said mesogenic group is selected from the group consisting of cyan-biphenyl, an ether group and an ester group.

9. (New) The conductive material of claim 1, wherein said at least one positively charged molecular group and at least one negatively charged molecular group are present on one molecule.

10. (New) A method for making a conductive material, comprising:

providing a first precursor for a forming a molecular medium, said first precursor having a side chain capable of attaining at least a partial positive charge;

providing a second precursor for a forming a molecular medium, said second precursor having a side chain capable of attaining at least a partial negative charge;

mixing said first and second precursors thereby forming a precursor mixture;

adding a dopant to said mixture thereby forming a solution comprising;

said mixture having a viscosity of about 10^7 Pa.s; and

modifying said mixture to separate said at least partial positive charge and said at least partial negative charge to a distance of from about 0.2 nm to about 20 nm; thereby

permitting at least two crystallized electron pairs to form within said molecular matrix.

11. (New) The method of claim 10, wherein said molecular medium comprises at least one of an epoxy, a polyoxypropylene diamine and dimethylaminoethylmethacrylate.

12. (New) The method of claim 10, wherein said dopant is selected from the group consisting of Na, K, Cs_2O, BaO, $(C_5H_5)_2Cr$ and $(CH_3)_3CH$.

13. (New) The method of claim 10, wherein said step of modifying includes at least one of exposing said mixture to ultraviolet radiation, applying heat or applying mechanical stress.

14. (New) A conductive nanowire comprising the conductive material of claim 1.

15. (New) The conductive nanowire of claim 14, said nanowire having two ends, each of which are in electrical contact with a main current electrode.

16. (New) The conductive nanowire of claim 15, further comprising a control electrode sufficiently near said nanowire to alter polarity of said at least partial positive and said at least partial negative charge in the molecular matrix of said nanowire, thereby forming an electronic gate.

17. (New) The conductive nanowire of claim 15, further comprising an insulator between one end of said nanowire and the main current electrode associated with that end of said nanowire.

18. (New) A method for manufacturing an electronic device, comprising:
manufacturing a shaped form in a substrate;
introducing a solution comprising a nanowire of claim 15 therein; and
permitting said solution to polymerize.

19. (New) The method of claim 18, wherein said shaped form comprises a linear groove having two ends, each of said ends comprising a main current electrode.

20. (New) The method of claim 19, further comprising forming a control electrode near said channel.

21. (New) The method of claim 18, wherein said shaped form comprises a circular groove.

22. (New) The method of claim 18, wherein said shaped form has a dielectric layer formed thereon, prior to introducing said mixture.